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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/662,485

09/15/2003

Joachim Laurenz Naimer

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11/28/2005

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EXAMINER

TWEEL JR, JOHN ALEXANDER

ART UNIT

PAPER NUMBER

2636

DATE MAILED: 11/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/662,485	Applicant(s) NAIMER ET AL.	
	Examiner John A. Tweel, Jr.	Art Unit 2636	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 September 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

1. This Office action is in response to the amendment filed 9/14/05. Claims 1, 15, 27, and 36 have been amended.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1-5, 7-18, 22-29, 33-37, 39, and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Gordon** in view of **Staggs et al** [U.S. 6,683,541] (supplied by applicant).

For claim 1, the electronic display for presenting airspeed data of an aircraft taught by **Gordon** includes the following claimed subject matter, as noted, 1) the claimed electronic airspeed tape is met by the airspeed indicator (No. 28) having a linear scale seen in Figures 2 and 11, wherein the hidden numbers 1 and 9 help to emulate the view of a mechanical drum gauge, and scrolling of the airspeed tape maintains the scale on the display. However, the scale in the airspeed tape is linear as opposed to non-linear.

Non-linear scales have been used in aircraft displays for some time. The vertical speed indicator taught by **Staggs** includes a non-linear scale as seen in Figures 4-6C. This reference is plain evidence that non-linear scales have been used to display advanced navigation information at the time of the Gordon reference. It would have

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been obvious to one of ordinary skill in the art at the time the invention was made to include a non-linear scale for the purpose of utilizing a well-known display method.

For claim 2, the airspeed data is centered on the nonlinear scale of the display.

For claim 3, the **Gordon** reference includes the claimed subject matter as mentioned above; however, there is no mention of display the data in units of knots.

Knots are commonly used to display airspeed data and have been for some time. As this obvious display technique has been used and is very well known in the prior art, it is not considered a patentable innovation as the inclusion of which would not result in a new or unexpected result.

For claim 4, the range of airspeed in knots is a decision best left to the user or designer of the display system to maximize the noticeability of the display.

For claim 5, the windows seen in Figures 2 and 11 show the current airspeed of the aircraft.

For claim 7, the data displayed in the window is an enlarged display of the airspeed tape.

For claim 8, the color of the background is not considered a patentable innovation as many different colors may be selected for maximum effectiveness of the display system.

For claims 9-14, every single airspeed indicator used includes upper and lower limits. The decision to change said limits is not a patentable innovation as customizing these limits do not result in a new or unexpected result in the display or operation of the aircraft.

For claim 15, the electronic display for presenting altitude data of an aircraft taught by **Gordon** includes the following claimed subject matter, as noted, 1) the claimed electronic altitude tape is met by the altitude display area (No. 30) having an altitude indicator (No. 32), wherein the numbers 20 and 80 help to emulate the view of a mechanical drum gauge, and wherein a scroll of the altitude tape maintains the altitude indicator on the display. However, the altitude tape is not non-linear.

The claim is interpreted and rejected for the same reasons and rationale as is mentioned in the rejection of claim 1 above.

For claim 16, the altitude data of the aircraft seen in **Gordon** is centered on the tape display.

For claim 17, the altitude shown in Figure 4 is in units of feet.

For claim 18, the range of the display of Figure 4 depicts 1200 feet.

For claim 22, the windows seen in Figures 3 and 7 show the current altitude of the aircraft.

For claim 23, the data displayed in the windows is an enlarged display of the airspeed tape.

For claim 24, the window of **Gordon** displays the numeric altitude of the aircraft.

For claim 25, the display of **Gordon** is an electronic emulation of the mechanical rolling numeric display (Col. 1, Lns. 26-31).

For claim 26, the color of the background is not considered a patentable innovation as many different colors may be selected for maximum effectiveness of the display system.

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For claim 27, the electronic display for presenting heading data of an aircraft taught by **Gordon** includes the following claimed subject matter, as noted, 1) the claimed electronic heading tape is met by the heading indicator (No. 24) wherein the nonlinear scale seen centered in Figure 2 emulates the view of a mechanical drum gauge, and wherein a scroll of the electronic heading tape maintains the nonlinear scale on the display. However, the heading tape is not non-linear.

The claim is interpreted and rejected for the same reasons and rationale as is mentioned in the rejection of claim 1 above.

For claim 28, Figure 2 and 11 of **Gordon** depict the letter N at the 360-degree heading.

For claim 29, Figures 2 and 11 depict a window showing the current heading of the aircraft.

For claim 33, the heading window seen in Figure 2 is an enlarged portion of the heading data seen on the tape.

For claim 34, the electronic display of **Gordon** is comprised of a numeric display of the current heading of the aircraft.

For claim 35, the color of the background is not considered a patentable innovation as many different colors may be selected for maximum effectiveness of the display system.

For claim 36, the electronic display for presenting data of an aircraft taught by **Gordon** includes several electronic tapes as seen in Figures 2 and 11, wherein a scroll

of the tape maintains the scale on the display. However, the scale of the tape is not non-linear that emulates a drum gauge.

The claim is interpreted and rejected for the same reasons and rationale as is mentioned in the rejection of claim 1 above.

For claim 37, the display of **Gordon** comprises several windows showing the current data of the aircraft.

For claim 39, the windows comprise a display of the current data of the aircraft.

For claim 40, the color of the background is not considered a patentable innovation as many different colors may be selected for maximum effectiveness of the display system.

4. Claims 6, 32, and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Gordon et al** in view of **Staggs et al** as applied to claims 1, 27, and 36 above, and further in view of **Konicke et al**.

For claim 6, the display taught by **Gordon** includes the claimed subject matter as discussed in the rejection of claims 1 and 5 above. However, the airspeed window is not comprised in the shape of a pointer.

The integrated primary flight display taught by **Konicke** presents a display having similar subject matter as the primary reference, including centered data windows emulating the analog mechanical drum gauge as seen in Figure 1. Another property seen in the Figure is all display windows in the shape of pointers. This reference is

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plain evidence that pointers have been used for some time to enhance the display of flight information.

Both references pertain to very similar subject matter, in this case the presentation of flight data in a display. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the windows of Gordon as pointers for the purpose of using a well-known and common method of flight display presentation.

For claims 32 and 38, the claims are interpreted and rejected for the same reasons and rationale as is mentioned in the rejection of claim 6 above.

5. Claims 19-21, 30, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Gordon et al** in view of **Staggs et al** as applied to claims 15 and 27 above, and further in view of **Briffe et al**.

For claim 19, the reference taught by **Gordon** includes the claimed subject matter as mentioned in the rejection of claim 15 above. However, there is no mention of emulating a drum gauge in units of meters.

The apparatus and method for graphically oriented aircraft display and control taught by **Briffe** enables the crew to perform flight plan modification by manipulating graphical information on the display devices. One tool is the "M/FT" button (No. 82f) that displays information in meters as well as feet. This is plain evidence that meters have been used to display information in flight displays. An obvious advantage of this

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system is the ability to use the display in different countries where the metric system is used.

The Briffe reference is ample evidence that altitude in meters has been displayed to a flight crew for some time. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a display of altitude in meters for the purpose of enhancing the versatility of the display system.

For claim 20, the system taught by **Gordon** depicts a range of approximately 1200 feet. A change to meters introduced by Briffe enables a metric display of the same range.

For claim 21, the system of **Briffe** displays data in units of feet and in meters.

For claim 30, an additional button (No. 82c) found in **Briffe** enables the heading to be displayed as true heading and magnetic heading.

For claim 31, the heading display found in Figure 3 of **Briffe** depicts the word "TRU" near the heading signifying a true heading.

Response to Arguments

Argument 1:

"The Examiner's reference to 'hidden numbers 1 and 9' is not understood. The Examiner made the same comment in the prior Office Action in making a novelty rejection based on Gordon '851. Accordingly, the applicant directs the Examiner to the response made to that point, particularly as to how the 'hidden numbers help to emulate the view of a mechanical drum gauge.'"

Argument 2:

"It is also clear that Staggs '541 does not contribute anything meaningful to the Examiner's argument. The Examiner cites Figures 4-6c as showing a vertical speed indicator 108 with a nonlinear scale, and cites this as evidence of the prior use of nonlinear scales to display advanced navigation information. The problem with this analysis is that the scale is not nonlinear. The accompanying text says 'Tape vertical indicator 108 includes [sic] linear indicia 110 indicating vertical speed in hundreds of feet per minute.'"

6. Applicant's arguments filed 9/14/05 have been fully considered but they are not persuasive.

Response to Argument 1:

If one looks closely at the upper left scale shown in Figures 2 and 11 of the '851 reference, one can see the number 220 in the airspeed display. Above and below the number zero are the partially obscured numbers 1 and 9 that remarkably resembles the indicated airspeed in the applicant's drawing with ITS own obscured numbers 1 and 9. It appears that this is not EXACTLY the mechanical drum gauge view that the applicant had in mind, but the Examiner as at least ONE example of a digital readout emulating a mechanical view uses it.

Response to Argument 2:

The Examiner is confused. The '541 reference certainly does use the term "linear" to describe its scale in its specification. However, when one considers the definition of the term "non-linear" as presented in its application; that is, a non-linear display "provides for a narrowing in the respective distance between the tick marks denoting an equivalent measured amount of a given parameter along the scale as one proceeds from the center of the nonlinear tape emulation to the outside range of values at either end of the scale", the Staggs reference displays just that. As seen in the aforementioned Figures 4-6c, the left side of the display shows its "linear" indicia as decreasing in distance between tick marks along a scale as one proceeds from the center of the display to the outside range of values at either end of the scale. Indeed, the distance between the 0 and 1 numbers is much larger than the distance between the numbers 5 and 6. This certainly resembles the mechanical drum gauge seen in the Figures of the application, therefore the rejection above stands.

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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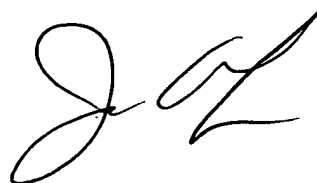
extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John A. Tweel, Jr. whose telephone number is 571 272 2969. The examiner can normally be reached on M-F 10-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeff Hofsass can be reached on 571 272 2981. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JAT
11/22/05



JOHN A. TWEEL, JR.
PRIMARY EXAMINER